

Claims

What is claimed is:

5           1.     A system to control the configuration of an implantable medical device (IMD),  
comprising:

          a web-enabled information network;

          a storage device capable of receiving information from the information  
network to receive patient-specific data; and

10           a processing circuit coupled to the storage device to select components to be  
integrated in the IMD based on the patient-specific data.

15           2.     The system of Claim 1, an further including software components loaded into  
the storage device, the software components being selected by the processing circuit  
as one or more of the components selected for use in the configuration of the IMD.

20           3.     The system of Claim 2, wherein the software means is selected from the group  
consisting of software and/or firmware-implemented digital signal processing  
processes, filters, and signal differentiation processes.

25           4.     The system of Claim 3, wherein the signal differentiation processes include  
means to analyze cardiac waveforms selected from the group consisting of poly-  
morphic ventricular tachycardia, poly-morphic ventricular fibrillation, mono-morphic  
ventricular tachycardia, mono-morphic ventricular fibrillation, atrial flutter, atrial  
tachyarrhythmia, atrial fibrillation, premature atrial contractions, premature  
ventricular contractions, sinus tachycardia, left bundle-branch block, right bundle  
branch block, antegrade p-waves, and retrograde p-waves.

30           5.     The system of Claim 1, wherein the processing circuit includes means to select  
predetermined parameters to be downloaded into the IMD.

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6. The system of Claim 5, wherein the predetermined parameters are selected from the group consisting of a patient identifier, a device type, model number, a serial number, a name of an implanting physician, a name of a sales representative, a name of an implanting institution, a data of implant, a customized patient alarm, and a customized message in a selected language.

7. The system of Claim 1, and further including a manufacturing system coupled to receive information indicative of the selected components, wherein the received information is used during manufacture of the IMD.

8. The system of Claim 7, and further including a testing system coupled to receive information indicative of the selected components, wherein the received information is used in testing a manufactured IMD.

9. The system of Claim 8, wherein the received information includes signals generated from the patient-specific data applied to inputs of the IMD during the testing of the manufactured IMD.

10. The system of Claim 9, wherein the processing circuit includes means for monitoring status of an IMD being manufactured and tested, and further including means for transferring the status via the web-enabled information network to a remote system.

11. The system of Claim 1, wherein the processing circuit includes means for selecting hardware components to be used during manufacture of the IMD based on the patient-specific data.

12. The system of Claim 1, and further including means for monitoring inventory levels of the selected components and for ordering additional ones of the selected components when the inventory levels are within a predetermined range.

13. The system of Claim 1, and further including means for receiving an order to manufacture the IMD via the web-enabled information network.

14. The system of Claim 13, and further including means for automatically shipping a manufactured IMD in response to the order.

15. The system of Claim 1, wherein the processing circuit is integrated within a programmer, and further comprising a telemetry system capable of downloading the ones of the selected components to the IMD.

16. The system of Claim 1, and further including a programmer coupled to the storage device to download ones of the selected components to the IMD.

17. A method of utilizing an information network coupled to an inventory management system to manufacture an implantable medical device (IMD), comprising the steps of:

a.) transferring a customized order for the IMD from a remote site to the inventory management system via the information network; and

b.) utilizing the inventory management system to select a user-specific configuration of the IMD based on the customized order, the user-specific configuration to be used to manufacture the IMD.

18. The method of Claim 17, wherein selecting the configuration includes selecting the operating parameters of the IMD.

19. The method of Claim 17, wherein selecting the configuration includes selecting hardware components to be used in the manufacture of the IMD.

20. The method of Claim 19, and further including the steps of:  
determining whether the selected hardware components are available in  
inventory; and  
automatically ordering components that are not available in inventory.

21. The method of Claim 17, wherein selecting the configuration includes  
selecting one or more software algorithms to be used to control operations of the  
IMD.

22. The method of Claim 21, wherein the customized order includes physiological  
data, and further including the step of modifying a selected software algorithm based  
on the physiological data.

23. The method of Claim 21, wherein selecting one or more software algorithms  
includes selecting from software and/or firmware-implemented digital signal  
processing algorithms, filters, and signal differentiation algorithms.

24. The method of Claim 17, wherein the customized order includes  
predetermined parameters selected from the group consisting of a patient identifier, a  
device type, model number, a serial number, a name of an implanting physician, a  
name of a sales representative, a name of an implanting institution, a data of implant,  
a customized patient alarm, and a customized message in a selected language.

25. The method of Claim 17, and further including the step of using the selected  
configuration to manufacture the IMD.

26. The method of Claim 25, wherein the inventory management system is  
coupled to a manufacturing system, and further including the step of transferring the  
selected configuration to the manufacturing system for use in manufacturing the IMD.

27. The method of Claim 25, and further including the step of using the selected  
configuration to test a manufactured IMD.

28. The method of Claim 27, wherein the inventory management system is coupled to a test system, and further including the step of transferring the selected configuration to the test system for use in testing a manufactured IMD.

29. The method of Claim 27, wherein the customized order includes physiological data obtained from a patient, and further including the step of providing the physiological data to interfaces of the manufactured IMD to test the manufactured IMD.

30. The method of Claim 25, and further including the step of monitoring status of an IMD while the IMD is being manufactured.

31. The method of Claim 30, and further including transferring the status to the remote site.

32. The method of Claim 25, and further including automatically shipping a manufactured IMD in response to the customized order.